1. (Previously Presented) Device for rescue and safety for swimming pools or recreational water parks, comprising:

a wristband (1) including:

a cardiac-arrest detector (65),

a printed circuit (7),

a transmitter (8),

a microcontroller (9),

a transponder (10),

at least one battery (13),

a personal identification code (2),

a means of display (3),

a panic button (4), and

a contact button (75) including:

a push button in contact with a wrist of the user and which, when pushed when the wristband is in a closed configuration about the wrist, activates a pulse detector (88), and when the pulse detector is activated, a light (14) is activated;

means of managing the cardiac arrest detector and the panic button;

means to trigger an automatic rescue device; and

a location device (27) with at least one central receiver for communicating with at least one control center (31) and transmitting a warning signal to an emergency center (35).

2. (Previously Presented) Device according to claim 1, wherein the wristband contains a water detector (39) that includes means for activating/deactivating the automatic rescue device.

3. (Previously Presented) Device according to claim 1, wherein the automatic rescue device is an inflatable grid (26) including means for raising the grid, means for checking a degree of vacuum in the grid to maintain the grid in a deflated state, and means for the inflation/deflation of the grid.

4. (Previously Presented) Device according to claim 1, wherein the means for managing the panic button (4) and the cardiac-arrest detector (65), includes:

a pulse detector (88) with two light sources (5, 96) in the form of electroluminescent diodes, one of the light sources (5) being located on the wrist (99) of the user and passing through human tissue of the user, and the other light source (96) being located beneath the wrist, these light sources (5, 96) being included in the wristband, with light emitted by one of the light sources (96) being incident on a light sensor (6),

means for generating an alarm code (89) in response to pressing of the panic button (4),

the cardiac-arrest detector (65) for performing a YES/NO determination of whether a pulse is present (93) and for reading pulses in a software processing loop (88), and

a fault meter, operating with the software processing loop (88), with a re-setting procedure (91), and with a maximum fault tolerance threshold, for performing a count of the pulses, capable of transmitting alarm codes (95) on a FM radio signal, either when the fault meter pulse count has exceeded a predetermined limit or when the panic button (4) is activated.

5. (Previously Presented) Device according to claim 4, wherein the pulse detector (88) consists of a 2 x 2 array of diodes (5, 96), located on either side of a half-wrist band above/below the wrist, with two light detectors (6) on either side of the wrist.

6. (Previously Presented) Device according to claim 4, wherein the pulse detector (88) includes a first diode (5), located on one side of the wrist and a reference diode (96) on the opposite side of the wrist, which is surrounded by two light sensors (6) for detecting the light from each of the diodes.

7. (Previously Presented) Device according to claim 1, wherein the wristband (1) includes the personal identification code (2) recorded in the transponder (10), which, in conjunction with a transponder detector (18), is capable of opening and closing doors and lockers, and triggering an alarm (24) with the opening and closing of lockers being managed overall or in rows via the microcontroller (9).

8. (Previously Presented) Device according to claim 2, wherein the water detector (39) includes at least one of:

a duct (41) with at least two apertures through which water can enter (42), the duct (41) containing electrodes (40) connected to a water detection circuit for actuating the rescue device or an alarm; and

two contacts spaced apart from each other and not in contact with the skin of the user with protective coverings rendering them watertight during bathing.

9. (Previously Presented) Device according to claim 1, wherein the wristband (1) includes:

a housing,

the panic button (4), and

the contact button (75) which includes the push button in contact with the wrist, each of which is located inside the housing and covered by a watertight membrane (47).

10. (Previously Presented) Device according to claim 1, wherein the location detector device (27) includes field detectors (49) with antennae (32) passing through a multiplexer (67), a level adapter (68) and the microcontroller (9).

11. (Previously Presented) Device according to claim 3, wherein the inflation of the grid (26) is managed by an inflation system, including a compressed air/gas (29) pipe, an emergency electro-valve (55), a non-emergency electro-valve (56), an electro-valve for discharging (57) and a pressure relief valve (58) for emergencies should the necessary inflation pressure not be the same as that required for powering the discharge, a pressure relief valve (59) for non-emergencies, a cut-out switch (60), a venturi tube (62) and a vacuum switch (63) for controlling the vacuum, wherein the entire inflation system is managed by the microcontroller (9) to which is functionally connected a component device selected from the group consisting of: the cardiac-arrest detector (65), the panic button (4), the contact button (75) with the push button in contact with the user's wrist, a non-emergency reset button (69), a vacuum switch (63), a descent button (70), a lifeguard button (71), an alarm (24), a monitor (66), a control keyboard (72), a display panel for the control center (73), a computer (74), and combinations thereof.

12. (Previously Presented) Device according to claim 3, wherein the grid (26) includes flanges and is raised either by straps (51) and strap guides (53) fixed under the flanges or by extendable bars (97) which are housed in the strap guides (53), the supporting bars, once extended, resting on the edge of a swimming pool, the grid (26) raised in order to enable a robotic arm of a robot to slide over the surface of the water.

13. (Previously Presented) Device according to claim 1, wherein the location detector device (27) is connected to at least one solar battery or batteries.

14. (Currently Amended) A wristband for attachment to the wrist of a person using a swimming pool or other prescribed bodies of water, the wristband comprising:

a cardiac-arrest detector (65),

a printed circuit (7),

a transmitter (8),

~~a microcontroller (9),~~

a transponder (10),

~~at least one battery (13),~~

a personal identification code (2),

a means of display (3),

a panic button (4), and

a contact button (75) electronically coupled to said microcontroller and including:

a microcontroller (9) mounted on the printed circuit (7) and for controlling electronic communications with said cardiac-arrest detector (65), said transmitter (8), said transponder (10), said means of display (3) and said panic button (4);

a push button in contact with a wrist of the user and which, when pushed when the wristband is in a closed configuration about the wrist, activates a pulse detector (88), and when the pulse detector is activated, a light (14) is activated.

15. (Original) A warning and rescue system for personnel in a contained aquatic environment, the system comprising:

a. an automatic rescue apparatus submerged at a predetermined depth in the contained aquatic environment;

b. an actuator means associated with the automatic rescue apparatus that activates the automatic rescue apparatus in response to a distress signal;

c. a personal detection and signaling apparatus for attachment to personnel in the aquatic environment that includes:

(i) signal generating means for periodically transmitting a unique personal identification code,

(ii) a cardiac arrest detector having a pulse sensor and sensor mounting means,

(iii) a processor/controller,

(iv) a transponder,

(v) a power source, and

(vi) a panic button operatively connected to a signal transmitter; and

d. a personnel location monitor with at least one central receiver for communicating with at least one safety control center.

16. (Original) The warning and rescue system of claim 15, wherein the personal detection and signaling apparatus includes:

(vii) a wristband including:

the cardiac-arrest detector,

a printed circuit,

a transmitter including the signal generating means,

a microcontroller including the processor/controller,

the transponder,

at least one battery included in the power source,

a personal identification code,

a display,

the panic button,

a contact button including:

a push button in contact with a wrist of a user and which, when pushed when the wristband is in a closed configuration about the wrist, activates the pulse sensor, and when the pulse sensor is activated, a light is activated, and

means for managing the cardiac arrest detector and the panic button.

17. (New) Device for rescue and safety for swimming pools or recreational water parks, comprising:

a wristband (1) including:

a cardiac-arrest detector (65),

a printed circuit (7),

a transmitter (8),

a microcontroller (9),

a transponder (10),

a personal identification code (2),

a means of display (3),

a panic button (4), and

a contact button (75) including:

a push button in contact with a wrist of the user and which, when pushed when the wristband is in a closed configuration about the wrist, activates a pulse detector (88), and when the pulse detector is activated, a light (14) is activated;

means to trigger an automatic rescue device, said rescue device being an inflatable grid (26);

means for inflating and deflating said grid; and

a location device (27) with at least one central receiver for communicating with at least one control center (31) and transmitting a warning signal to an emergency center (35).

18. (New) Device according to claim 17, further comprising means for checking a degree of vacuum in the grid to maintain the grid in a deflated state.

19. (New) Device for rescue and safety for swimming pools or recreational water parks, comprising:

a cardiac-arrest detector (65);

a transmitter (8);

a transponder (10);

display (3);

a panic button (4);

a switch;

a microcontroller (9) for controlling electronic communications with said cardiac-arrest detector (65), said transmitter (8), said transponder (10), said display (3), said panic button (4) and said switch;

a contact button (75) electronically connected to said microcontroller and including:

a push button in contact with a wrist of the user and which, when pushed when the wristband is in a closed configuration about the wrist, activates a pulse detector (88), and when the pulse detector is activated, a light (14) is activated.

20. (New) Device according to claim 19, further comprising an automatic rescue device in the form of an inflatable grid (26) including means for raising the grid, means for checking a degree of vacuum in the grid to maintain the grid in a deflated state, and means for the inflation/deflation of the grid; and

means to trigger the grid.

21. (New) A wristband for attachment to the wrist of a person using a swimming pool or other prescribed bodies of water, the wristband comprising:

a cardiac-arrest detector (65),

a printed circuit (7),

a transmitter (8),

a transponder (10),

a personal identification code (2),

a means of display (3),

a panic button (4), and

a contact button (75) electronically coupled to said microcontroller and including:

a microcontroller (9) mounted on said printed circuit (7) and for controlling electronic communications with said cardiac-arrest detector (65), said transmitter (8), said transponder (10), said means of display (3) and said panic button (4);

a push button in contact with a wrist of the user and which, when pushed when the wristband is in a closed configuration about the wrist, activates a pulse detector (88), and when the pulse detector is activated, a light (14) is activated,

means to trigger an automatic rescue device, said rescue device being an inflatable grid (26); and

means for inflating and deflating said grid.

22. (New) Device according to claim 21, further comprising means for checking a degree of vacuum in the grid to maintain the grid in a deflated state, and means for the inflation/deflation of the grid.